

SHORE BIRDS OF THE MARINE NATIONAL PARK IN THE GULF OF MANNAR, TAMIL NADU¹

S. BALACHANDRAN²

(With a text-figure)

Key words: Dhanuskodi lagoon, Pillaimadam lagoon, Kundugal point, Rameswaram island, Manali island, Hare island, winter visitor, passage migrant, breeding resident, wader, tern, gull

During the bird migration study conducted between 1985-1988 at the Gulf of Mannar Marine National Park area, a total of 187 species of birds were recorded, of which 84 were aquatic species and the remaining terrestrial. The status, population, arrival and departure dates (for the migratory species) of the waders, terns and gulls have been described specieswise. The other aquatic birds are listed groupwise and the terrestrial birds recorded are listed in the checklist. At Manali and Hare islands 23 species of migratory birds were found to overwinter every year. The uncommon waders to India such as knot *Calidris canuta*, eastern knot *Calidris tenuirostris*, curlew *Numenius arquata*, whimbrel *Numenius phaeopus*, and bar-tailed godwit *Limosa lapponica* were recorded as regular winter visitor to this area.

INTRODUCTION

The marine fauna and flora and the physical, chemical and biological features of the coastal habitat around Mandapam in the Ramanathapuram district bordering the Marine National Park are well known (Jayaraman 1954, Prasad 1956, 1958; Sudarsan 1961). However, relatively little is known about the coastal birds. Biddulph (1938) reported on the birds of Rameswaram islands, and Lal Mohan (1985, 1986) on the population, seasonality and recovery of terns.

A visit by Sálím Ali during 1982 and a survey party from the Bombay Natural History Society in August 1985 to Mandapam, (Fig. 1) focused the importance of this area in the migratory movements of wader species and flamingos *Phoenicopterus roseus* in India. The status of the water birds of Mandapam and its neighbouring islands, was studied by the BNHS by a ringing programme between September 1985 and August 1988.

Next to Point Calimere on the south-east coast of India, the Mandapam area has the largest number of bird species (187 species both aquatic and terrestrial) and a large seasonal aquatic bird population of over 50,000. Pelagic birds were also occasionally recorded (Balachandran 1990, 1991). Its geographical situation close to Sri Lanka and the islands in the Gulf of Mannar is of particular importance in the movement of birds.

STUDY AREAS

Mandapam (9° 17' N, 79° 8' E) lies on a narrow peninsula projecting from the south east coast of India, with the Gulf of Mannar to the south and Palk Bay to the north (see Fig. 1). At the end of the peninsular extension is Pamban island which is connected to the mainland by a Railway bridge. The inshore region of the Palk Bay is largely muddy while, in the Gulf of Mannar, it is rocky with small areas of sand and mud in between. At distances ranging from 5-8 km from the mainland, the Gulf of Mannar has a chain of islands running roughly parallel to the coast (Fig. 1). These islands are mainly of coral origin, probably of the nature of fringing reefs. The mixing of waters of Palk Bay and the Gulf

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²Bombay Natural History Society, Hornbill House, Dr. Sálím Ali Chowk, Shaheed Bhagat Singh Road, Bombay-400 023. Present address: 11/100, Central St., Agasteeswarain P.O., Kanyakumari Dist.-629 701, Tamil Nadu.

takes place through the Pamban pass and also through "Adam's Bridge" between Dhanuskodi and west coast of Sri Lanka (Jayaraman 1954).

The main study areas were the Manali and Hare islands, the Dhanuskodi lagoon, the intertidal

and mud flats are present at the eastern side the island. As in Manali island, large areas (1.8 sq.km) are exposed during low tide.

The Pillaimadam lagoon adjoining Palk Bay, is about 8 km long encompassing an area of 6 sq.km.

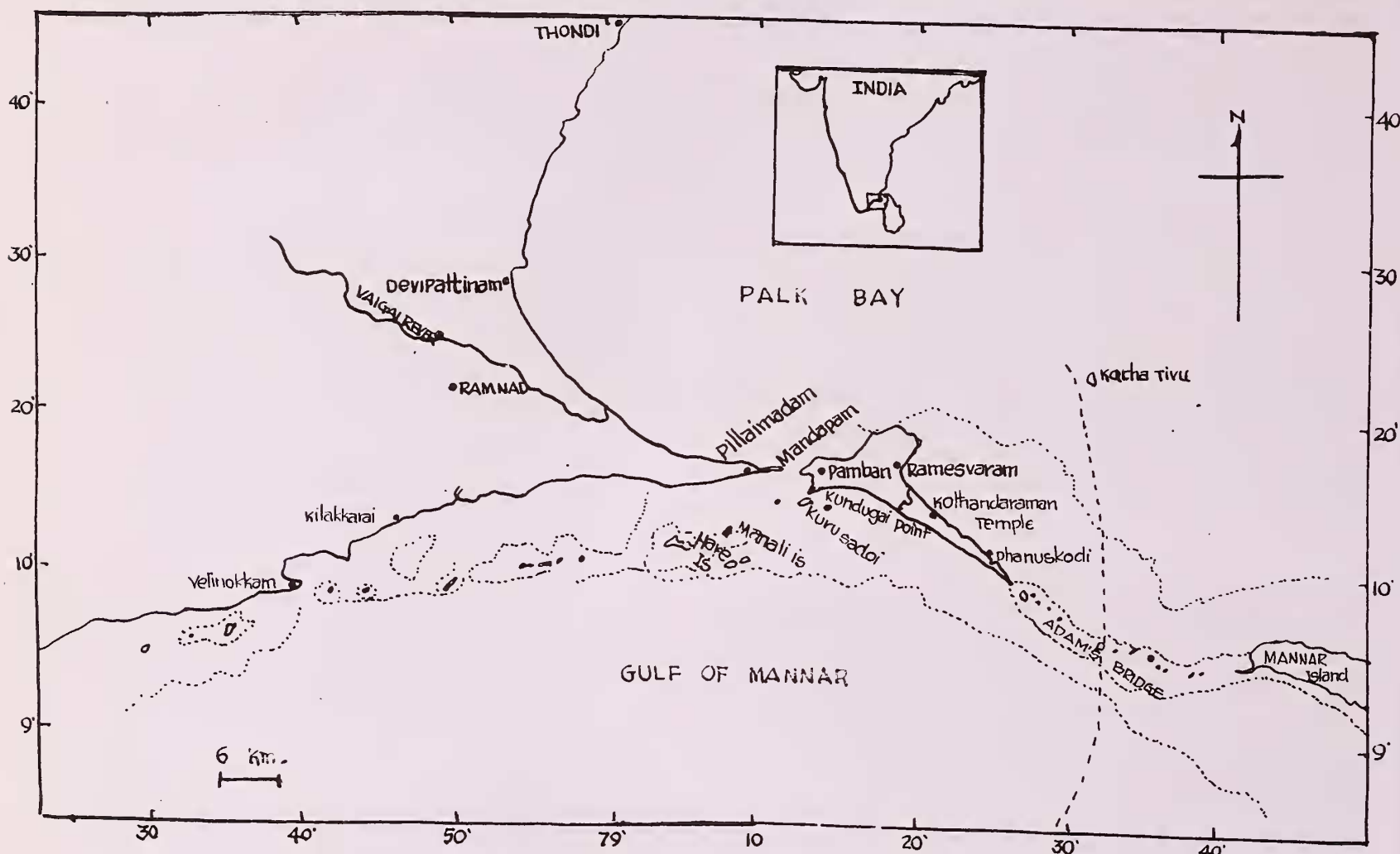


Fig. 1. Study area of the Marine National Park, Gulf of Mannar.

area of Kundugal point in the Rameswaram island, and the Pillaimadam lagoon in the mainland near Mandapam (Fig. 1)

Manali island is about 2 km long and 50 meters wide, covering an area of 24 hectares with small water pools and open mudflats. The small creeks inside the islands are fringed with mangrove vegetation and coarse grass. The shore is sandy with extensive coral formation in the intertidal area. Large inshore areas (approximately 1.5 sq.km) are exposed during the low tide.

Hare island is the largest among all the islands with an area of about 56 ha. Due to human interference, the flora and fauna are different from those of other islands. The inshore area is sandy,

The bottom of the lagoon is mostly muddy. The lagoon is bordered by grassy area on the landward side and sand dunes on the seaward side. The salinity fluctuates significantly between monsoon and summer seasons. Small fresh water pools are formed along the border of the lagoon during the monsoon.

Dhanuskodi lagoon, situated on Rameswaram island, extends from Rameswaram road to the lands end at Dhanuskodi. The length of the lagoon is approximately 14 km and the width varies from 0.7 to 1 km. The total area of the lagoon is 11.85 sq.km. The western side of the lagoon is mostly of mud flats and the middle portion is an admixture of sand and clay. The tapering eastern end is sandy.

CLIMATE

The temperature varies from 22°C to 36°C, Mandapam experiences moderate climatic conditions. North-east monsoon which usually sets in late October brings much of the rain. During the three year study period the rainfall was maximum (1120 mm) in the third year (1987-88) and was lowest (756 mm) in the first year (1985-86), and was moderate (920 mm) in the second year (1986-87).

METHODS

Information collected during bird counts, and data obtained from bird ringing formed the main data base for this study. The study was carried out over three years (1985 to 1988) as a part of the BNHS Bird Migration Project. Each season commenced from September and ended the next August. Thus, 1985-1986, 1986-1987, 1987-1988 seasons are respectively mentioned as "first", "second" and "third" season.

As the study was focused on migratory water birds especially waders, terns and gulls, these groups are described specieswise. Moreover, these species regularly occurred in the study areas. Other aquatic birds such as egrets, herons, ducks and teals are also described groupwise. The land birds of the area are listed in the Appendix.

RESULTS

Oystercatcher *Haematopus ostralegus*

A regular winter visitor in small numbers. Observed on the intertidal habitats of Manali and Hare islands and Kundugal Point. The maximum number recorded was in the year 1985-86. A few subadult birds 3 to 6 summered at the above three sites.

Grey plover *Pluvialis squatarola*

A regular, common, winter visitor occurring in several hundreds, seen in all the habitats. The maximum number of individuals recorded was during October and included passage migrants at Manali island. A considerable number of individuals (50-70) were noticed throughout the summer, especially at Manali and Hare islands.

Eastern golden plover *Pluvialis dominica*

A regular winter visitor. Several hundreds arrive between September and October and depart between March and April. Though a few hundreds were observed throughout the winter their number was maximum during the spring passage (February to March). None were seen during the summer.

Large sand plover *Charadrius leschenaultii*

A regular, common, winter visitor. Arrives in hundreds in September and October and departs in late January and February. A few individuals summer in Manali and Hare islands. Predominantly seen on the two islands, Kundugal Point, and the eastern end of Dhanuskodi lagoon. The maximum number was observed in October due to the occurrence of passage migrants.

Little ringed plover *Charadrius dubius*

A regular winter visitor. A few hundreds arrive soon after the commencement of the Northeast monsoon in October and leave in March and April depending on the water condition. It was mostly seen along the freshwater pools. Seldom seen in brackish and coastal habitats.

Kentish plover *Charadrius alexandrinus*

Two races were found. The nominate *alexandrinus* is migratory arriving in several hundreds in September and departing between late February and mid March. None of them remained during the summer. The race *seebohmi* is a breeding resident and their numbers were augmented by local migrants during winter. The breeding season is between April and July. Maximum birds were counted (850) in January and February during spring passage of the nominate race.

Ringed plover *Charadrius hiaticula*

Rare. One was caught and ringed. None were sighted in the field.

Lesser sand plover *Charadrius mongolus*

One of the abundant winter visitors, which arrive from late August to mid October and depart

between March and April. Maximum numbers were observed both in autumn and spring on passage. Several thousands were seen throughout the winter. Occurred in thousands in all the habitats depending upon the water conditions. A few hundreds, mostly first year birds, summered in all the habitats subject to the availability of water. The oversummering adults were seen in partial breeding plumage. Maximum number counted was 14,000 during October 1985.

Whimbrel *Numenius phaeopus*

A regular winter visitor in small numbers, seen in considerable number during the autumn passage in September and early October. A few first year birds oversummered in the Manali and Hare islands. A maximum of 186 birds were counted during September 1986.

Curlew *Numenius arquata*

A regular and common winter visitor in a few hundreds. Arrives in September and leaves in March. Some individuals (25-30) summered at Manali and Hare islands, but were seldom seen in other areas during the summer. The maximum recorded was 443 in October 1986.

Bartailed godwit *Limosa lapponica*

A common winter visitor. Arrives in a few hundreds by the middle of September and leaves by March. In addition to the wintering population, passage migrants are also seen on their autumn and spring passages. The maximum number recorded was 360 in September 1985. A few first year birds summered in Manali island. Distributed in all the study areas, during the month of September and October, and mainly confined to the eastern sandy area of Dhanuskodi lagoon during February and March.

Redshank *Tringa totanus*

A common winter visitor occurring in several hundreds between September and January in all the habitats. As the majority of the birds departed by February, their numbers fell after February. The highest number of wintering birds was 730 in 1985-86. This species could be seen throughout the year

as some individuals summered on the island and other habitats subject to the water condition.

Marsh sandpiper *Tringa stagnatilis*

A common winter visitor in a few hundreds between late October and March. None in summer. Recorded mostly in the western part of Dhanuskodi and Pillaimadam lagoon. Not recorded from Manali and Hare islands.

Greenshank *Tringa nebularia*

A regular and common winter visitor arriving in several hundreds in early September and departing in late March or early April. Many young birds spent two seasons at Mandapam prior to returning to their breeding ground. A few adults were also found to oversummer. Seen in all the habitats in considerable numbers. The maximum number wintered in the year 1985-86.

Wood or Spotted sandpiper *Tringa glareola*

A regular winter visitor in small numbers arriving late October and departing late March or early April when the freshwater pools dry up. Not recorded from the exclusively marine habitat such as the Manali and Hare islands and the eastern part of the Dhanuskodi lagoon.

Terek sandpiper *Tringa terek*

A regular and common winter visitor arriving between late August and September in a few hundreds which stay throughout the winter. The occurrence of transient population in the autumn makes for a maximum population in September. Over 500 individuals wintered in the 1987-88 season. Summering first year birds were seen in all the summers at Manali and Hare islands. Though recorded in all the habitats they preferred Manali island and Kundugal Point.

Common sandpiper *Tringa hypoleucos*

A regular winter visitor but in small numbers between September and April. There is no record of this bird after April. The wintering population of 124 observed in the 1987-88 season was the maximum recorded during the three year study.

Spotted redshank *Tringa erythropus*

Rare. A single sighting record at Pillaimadam lagoon was the only record during the three year study.

Turnstone *Arenaria interpres*

A common and regular winter visitor. Seen in maximum numbers during the autumn passage between September and October. Though the majority depart in April for the breeding ground, a few birds remain on the two islands and along the beaches during summer. Occur at all study sites but preferred Manali and Hare islands and the eastern end of Dhanuskodi lagoon. Over 600 individuals were counted in 1985-86 and 1987-88.

Knot *Calidris canuta*

A regular winter visitor, a few hundreds arriving by the middle of October and departing in late March. None overwintered. The maximum numbers were observed in November and February. Seen only along the sandy intertidal areas of Kundugal Point, Manali island and the eastern end of Dhanuskodi.

Eastern knot *Calidris tenuirostris*

A regular winter visitor like the Knot, arriving and departing at the same time. The distribution pattern was also same as that of the knot. The wintering population was over 300 individuals. None of them overwintered.

Sanderling *Calidris alba*

As mentioned by Biddulph (1938), several hundred sanderlings winter in Dhanuskodi and Manali island. They arrive in early September and depart in late March and early April. A few individuals in non-breeding plumage were observed during the summer at Dhanuskodi. The maximum wintering population (850) was recorded during 1986-87. Largely confined to the eastern side of Dhanuskodi, Manali and Kundugal Point where the terrain is sandy.

Little stint *Calidris minuta*

An abundant winter visitor arriving in thousands during September and departing in March

and April. None of them stayed back for the summer. Abundantly seen in Pillaimadam lagoon and the western part of Dhanuskodi lagoon. Occurred in thousands throughout the winter and the number fluctuated depending upon the water condition.

Curlew Sandpiper *Calidris testacea*

An abundant winter visitor arriving between September and October and departing between March and early April. Distribution pattern, population fluctuation, and habitat preference was almost the same as that of the Little stint but a portion of the population mostly "first year" birds overwintered in the two islands. Over 10,000 was observed to winter in the 1985-86 season.

Dunlin *Calidris alpina*

This species was not encountered in the field, perhaps from its close similarity to the Curlew sandpiper, but possibly from its rareness. However, 14 individuals were caught during the three year study.

Rednecked stint *Calidris ruficollis*

None were observed in the field. However, 12 individuals were caught and ringed during the three year study. An uncommon winter visitor to this site.

Temminck's stint *Calidris temminckii*

Only one sighting in the field indicating its rareness.

Longtoed stint *Calidris subminuta*

Like Temminck's stint, few sightings were recorded for this species. One bird was caught and ringed.

Broadbilled sandpiper *Limicola falcinellus*

A rare wintering wader at Mandapam. Few sightings, mainly of two to three individuals. In one instance at Manali island, 44 birds were seen in October during autumn passage.

Rednecked phalarope *Phalaropus lobatus*

A rare winter visitor, rarely sighted. Once 7 individuals were seen together at the Pillaimadam lagoon.

Pintail snipe *Gallinago stenura*

An uncommon winter visitor occurring on the grassy patches around fresh water pools.

Green sandpiper *Tringa ochropus*

An uncommon winter visitor to small fresh water ditches. The maximum number counted was 25 from all the study sites.

Blackwinged stilt *Himantopus himantopus*

A common, regular winter visitor in several hundreds. A few hundreds were seen throughout the summer in the freshwater pools in the Rameswaram island and other places around Mandapam. It was seen throughout the winter in the seawater inundated lagoons inside Hare island and the Pillaimadam lagoon. Avoids sandy areas. Not recorded from Manali and Dhanuskodi.

Great stone plover *Esacus magnirostris*

A breeding resident present throughout the year in small numbers, seventeen pairs were counted in the study areas.

Stone curlew *Burhinus oedipnemus*

Status unknown, being a crepuscular species. Its occurrence in large numbers during winter was noted from its call. Two birds were caught and ringed.

Crab plover *Dromas ardeola*

A fairly common winter visitor. Starts arriving in hundreds in September and October. Maximum numbers were observed during autumn passage in October. Present mainly in the intertidal area of Manali island. Considerable numbers were also noticed at Kundugal Point and Hare island. Not recorded from Dhanuskodi and Pillaimadam lagoon. A few individuals (10-20) mostly the first year birds summer in Manali island.

Redwattled lapwing *Vanellus indicus*

A breeding resident occurring in small numbers, mostly along the grassy patches of Pillaimadam lagoon.

Yellow-wattled lapwing *Vanellus malabaricus*

A breeding resident occurring in small numbers along with the Redwattled lapwing in the Pillaimadam lagoon and grassy patches near freshwater pools.

Herring gull *Larus argentatus*

A winter visitor in considerable numbers. Arrives in November and winters till April. Mostly found along the Pillaimadam lagoon and Manali island. Maximum population wintered during 1986-87.

Great blackheaded gull *Larus ichthyaetus*

A winter visitor. Arrives in November in small numbers, seen with the Herring gull at Pillaimadam lagoon and Manali island. Maximum number counted was 85 during 1985-86.

Great blackbacked gull *Larus fuscus*

A regular winter visitor in small numbers, seen only on Manali island. Arrive in late October and depart in April. Maximum number (64) was recorded during 1987-88.

Brownheaded gull *Larus brunnicephalus*

A fairly common winter visitor in several hundreds between October and April. A few individuals were seen till May. Recorded in all the study sites. Majority of them were seen at Dhanuskodi. The maximum number counted was 600.

Blackheaded gull *Larus ridibundus*

A common winter visitor in small numbers and recorded from all the habitats. Occurs between November and March. Maximum number of 85 birds were recorded during 1985-86.

Whiskered tern *Chlidonias hybrida*

A common winter visitor in a few hundreds. Some individuals were seen throughout the year. Recorded from all the habitats. The maximum number was recorded during February and March.

Gullbilled tern *Gelochelidon nilotica*

A common winter visitor in small numbers. Recorded from all the habitats in the study area. A few individuals were seen throughout the summer also. The maximum number of 136 was counted in October 1985

Caspian tern *Hydroprogne caspia*

A regular winter in small numbers (50-85). Recorded in all the study sites. A few individuals overwintered on Manali island.

Common tern *Sterna hirundo*

A regular winter visitor. Arrives in small numbers, between October and April, without much fluctuation in population. A few birds were sighted during summer, especially on the islands.

Little tern *Sterna albifrons*

A common breeding resident found in all the habitats. Their numbers were augmented in the winter by non-breeding migrants from other regions. The breeding season is from April to July.

Lesser crested tern *Sterna bengalensis*

One of the abundant winter visitors to this area. The maximum numbers were recorded during their autumn passage in October. A portion of the population breeding on the islets of Adam's bridge between Dhanuskodi and Mannar island of Sri Lanka. The maximum number was recorded during October 1985. Seen in all the study sites, but the largest number were counted from Manali island. The breeding season is between May and July.

Ducks, teals and geese

Three species of ducks (Pintail *Anas acuta*, Wigeon *A. penelope*, Shoveller *A. clypeata*), two species of teals (Common Teal *A. crecca*, Garganey *A. querquedula*) and the Barheaded Goose *Anser indicus* were recorded during the study period.

The commonest species is the Pintail (> 1000) followed by Garganey (> 500). Common Teal, Wigeon and Shoveller were observed in numbers between 200-400. Twenty eight Barheaded Geese

were seen at the pillaimadam lagoon once.

Ducks arrive in November and stay till April depending upon the water conditions.

Egrets and herons

The local migrants like egrets (Little Egret *Egretta garzetta*, Cattle Egret *Bubulcus ibis*, Large Egret *Ardea alba*) and heron (Grey Heron *Ardea cinerea*, Pond Heron *Ardeola grayii*, Reef Heron *Egretta gularis* and Little Green Heron *Ardeola striatus*) were seen throughout the season. Their number fluctuated due to local movement subject to the water conditions. The population in the two islands were almost stable throughout the year, but at Dhanuskodi and Pillaimadam lagoons their numbers (especially Little Egret) went up to more than a thousand during March and April when the lagoons were drying. Little Green Heron and Reef Heron were rare among this group.

DISCUSSION

Mandapam and its neighbouring islands are important coastal habitats for both passage and wintering migrant waterbirds, especially for the sand-flat preferring waders, maritime terns and flamingos. It supports a waterbird population of over 50,000 including resident and migrant species.

Though this area supports relatively lesser number of waders other than well known wader habitats such as Chilka Lake, Pulicat Lake and Great Vedaranyam Swamp. This is the only known habitat, along the east coast of India to support the uncommon sand-flat preferring species, namely Crab Plover, Sanderling, Knot, Eastern Knot and Bartailed Godwit in considerable numbers.

Alternatively exposed and submerged intertidal areas in the islands (due to daily tidal impacts), offer favourable feeding and roosting sites for the wintering and summering birds throughout the year. The huge congregation of passage and wintering migrants makes almost all the habitats sustain a dense wintering population during September and October. The highest density was seen on Manali island due to the occurrence of large number of birds within a small intertidal area of

c. 1.5 sq. km. However, the Dhanuskodi lagoon supports a numerically large population of waders throughout winter except for two months.

Status of coastal birds: Among the waders the Lesser Sand Plover, Curlew-Sandpiper and Little Stint are most abundant. Ali and Ripley (1983) stated that Lesser Sand Plovers were more abundant, whereas the other two species were recorded as common winter visitors. However, this study shows that Curlew-Sandpiper and Little Stint are also among the abundant winter visitors to India. The status of the Knot is established as a regular winter visitor to India in small numbers, and the species is not a straggler as reported previously. Some of the uncommon waders to India such as Eastern Knot, Curlew and Whimbrel were found to be regular winter visitors at Mandapam. The occurrence of Crab Plovers in hundreds indicated that the two islands (Manali and Hare) in the Gulf of Mannar are important habitats next only to Piroten Islands in Kutch (coastal north-west India) where two to three thousand of them were reported to winter regularly (Hussain and Natarajan, Pers. comm.).

The Bar-tailed Godwit, reportedly a straggler in south India, was recorded in hundreds. The status of Sanderling was confirmed as a regular common winter visitor as stated by Biddulph (1938).

The marine terns, such as Lesser Crested and Sandwich Terns commonly occurred in the study area. The Lesser Crested Tern was reported to breed in the islets of Adam's bridge, and this fact has been confirmed by the present study. The other breeding species at Mandapam are: Little Tern, Kentish Plover, Stone Plover *Esacus magnirostris* and Stone Curlew *Burhinus oedicephalus*. Since flamingos frequent this area in several thousands, this is the third important wintering ground for flamingos along the east coast, next to Pulicat Lake and Great Vedaranyam Swamp. The rare waders to this area are the Broadbilled Sandpiper, Dunlin, Rednecked Phalarope, Longtoed and Temminck's Stint.

Passage and wintering migrants: Though individuals of most of the wader species stayed here throughout the winter season, some species occurred

only as autumn passage migrants. The Black-tailed Godwit and Broad-billed Sandpiper are the two passage migrants, occurring only in October in low numbers. The other wintering migrants which occurred in relatively larger numbers, during their autumn passage, are Crab Plover, Grey Plover, Large Sand Plover, Whimbrel, Bar-tailed Godwit, Terek Sandpiper, Oystercatcher and Lesser Crested Tern. The only species occurring in larger numbers during spring passage was the Kentish Plover. The species occurring in maximum numbers both in autumn and spring passages are Knot, Eastern Knot, Sanderling, Eastern Golden Plover. Generally most of the migrant species were found in maximum numbers during earlier part of September and October, while a few species in peak numbers occurred during spring passage (February and March).

Summering migrants: Individuals of 15 species of migratory waders and 8 species of migratory terns were found to oversummer especially on the two islands. Individuals of these 23 species of migrants could thus be recorded throughout the year.

Arrival and departure dates: The migrants started arriving in late August. Most of the species arrived before the first week of October. The coastal species arriving after the first week of October were Knot, Eastern Knot, Marsh Sandpiper, Spotted Sandpiper, Green Sandpiper and Little Ringed Plover. The ducks, teals and flamingos and gulls arrived late in November.

Similarly, the departure time of migrants was generally from mid March to mid April. Some waders, such as Kentish Plover, Marsh Sandpiper, Terek Sandpiper and Bar-tailed Godwit departed during the last week of February, earlier than the other waders.

The species that departed very late were the Lesser Sand Plover, Curlew-Sandpiper, Sanderling, Grey Plover, Greenshank and Redshank. The departure time of fresh water species was solely dependent on the condition of freshwater pools, formed by rain water inundation. Similarly, water level in the Dhanuskodi lagoon was the prime factor determining departure period of flamingo.

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APPENDIX

CHECKLIST OF THE BIRDS OF MANDAPAM AND RAMESWARAM

Common Name	Scientific Name	Common Name	Scientific Name
1. Dabchick	<i>Tachybaptus ruficollis</i>	53. Blackwinged Stilt	<i>Himantopus himantopus</i>
2. Wilson's Storm Petrel	<i>Oceanites oceanicus</i>	54. Crab plover	<i>Dromas ardeola</i>
3. White Tropic-bird	<i>Phaethon lepturus</i>	55. Stone Curlew	<i>Burhinus oedicnemus</i>
4. Grey or Spottedbilled Pelican	<i>Pelecanus philippensis</i>	56. Great stone Plover	<i>Esacus magnirostris</i>
5. Large Cormorant	<i>Phalacrocorax carbo</i>	57. Redwattled Lapwing	<i>Vanellus indicus</i>
6. Little Cormorant	<i>Phalacrocorax niger</i>	58. Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
7. Grey Heron	<i>Ardea cinerea</i>	59. Grey Plover	<i>Pluvialis squatarola</i>
8. Large Egret	<i>Ardea alba</i>	60. Eastern Golden Plover	<i>Pluvialis dominica</i>
9. Little Green Heron	<i>Ardeola striatula</i>	61. Large Sand Plover	<i>Charadrins leschenaultii</i>
10. Pond Heron	<i>Ardeola grayii</i>	62. Ringed Plover	<i>Charadrins hiaticula</i>
11. Cattle Egret	<i>Bubulcus ibis</i>	63. Little Ringed Plover	<i>Charadrins dubius</i>
12. Smaller or Median Egret	<i>Egretta intermedia</i>	64. Kentish Plover	<i>Charadrins alexandrinus</i>
13. Little Egret	<i>Egretta garzetta</i>	65. Lesser Sand Plover	<i>Charadrins mongolus</i>
14. Indian Reef Heron	<i>Egretta gularis</i>	66. Whimbrel	<i>Numenius phaeopus</i>
15. Night Heron	<i>Nycticorax nycticorax</i>	67. Curlew	<i>Numenius arquata</i>
16. Black Bittern	<i>Ixobrychus flavicollis</i>	68. Blacktailed Godwit	<i>Limosa limosa</i>
17. Painted stork	<i>Mycteria leucocephala</i>	69. Bartailed Godwit	<i>Limosa lapponica</i>
18. Openbill stork	<i>Anastomus oscitans</i>	70. Common Redshank	<i>Tringa totanus</i>
19. White Stork	<i>Ciconia ciconia</i>	71. Marsh Sandpiper	<i>Tringa stagnatilis</i>
20. White Ibis	<i>Threskiornis aethiopica</i>	72. Greenshank	<i>Tringa nebularia</i>
21. Black Ibis	<i>Pseudibis papillosa</i>	73. Green Sandpiper	<i>Tringa ochropus</i>
22. Spoonbill	<i>Platalea leucorodia</i>	74. Wood or Spotted Sandpiper	<i>Tringa glareola</i>
23. Flamingo	<i>Phoenicopterus roseus</i>	75. Terek Sandpiper	<i>Tringa terek</i>
24. Barheaded Goose	<i>Anser indicus</i>	76. Common Sandpiper	<i>Tringa hypoleucos</i>
25. Pintail	<i>Anas acuta</i>	77. Turnstone	<i>Arenaria interpres</i>
26. Common Teal	<i>Anas crecca</i>	78. Pintail Snipe	<i>Gallinago stenura</i>
27. Spotbill Duck	<i>Anas poecilorhyncha</i>	79. Knot	<i>Calidris canuta</i>
28. Wigeon	<i>Anas penelope</i>	80. Eastern Knot	<i>Calidris tenuirostris</i>
29. Garganey	<i>Anas querquedula</i>	81. Sanderling	<i>Calidris alba</i>
30. Shoveller	<i>Anas clypeata</i>	82. Rednecked Stint	<i>Calidris ruficollis</i>
31. Blackwinged Kite	<i>Elanus caeruleus</i>	83. Little Stint	<i>Calidris minuta</i>
32. Pariah Kite	<i>Milvus migrans</i>	84. Temminck's Stint	<i>Calidris temminckii</i>
33. Brahminy Kite	<i>Haliastur indus</i>	85. Longtoed Stint	<i>Calidris subminuta</i>
34. Shikra	<i>Accipiter badius</i>	86. Dunlin	<i>Calidris alpina</i>
35. Sparrow Hawk	<i>Accipiter nisus</i>	87. Curlew Sandpiper	<i>Calidris testacea</i>
36. White-eyed Buzzard Eagle	<i>Butastur teesa</i>	88. Broadbilled Sandpiper	<i>Limicola falcinellus</i>
37. Booted Hawk-Eagle	<i>Hieraaetus pennatus</i>	89. Rednecked Phalarope	<i>Phalaropus lobatus</i>
38. Whitebellied Sea Eagle	<i>Haliaeetus leucogaster</i>	90. Skua	<i>Catharacta skua</i>
39. Scavenger Vulture	<i>Neophron percnopterus</i>	91. Herring Gull	<i>Larus argentatus</i>
40. Pale Harrier	<i>Circus macrorhynchos</i>	92. Great Blackheaded Gull	<i>Larus ichthyaetus</i>
41. Pied Harrier	<i>Circus melanoleucos</i>	93. Brownheaded Gull	<i>Larus brunnicephalus</i>
42. Marsh Harrier	<i>Circus aeruginosus</i>	94. Blackheaded Gull	<i>Larus ridibundus</i>
43. Short-toed Eagle	<i>Circaetus gallicus</i>	95. Whiskered Tern	<i>Chlidonias hybrida</i>
44. Crested Serpent Eagle	<i>Spilornis cheela</i>	96. Gullbilled Tern	<i>Gelochelidon nilotica</i>
45. Osprey	<i>Pandion haliaetus</i>	97. Caspian Tern	<i>Hydroprogne caspia</i>
46. Peregrine Falcon	<i>Falco peregrinus</i>	98. Common Tern	<i>Sterna hirundo</i>
47. Kestrel	<i>Falco tinnunculus</i>	99. Little Tern	<i>Sterna albifrons</i>
48. Grey Partridge	<i>Francolinus pondicerianus</i>	100. Large Crested Tern	<i>Sterna bergii</i>
49. Common Peafowl	<i>Pavo cristatus</i>	101. Indian Lesser Crested Tern	<i>Sterna bengalensis</i>
50. Ruddy Crake	<i>Porzana fusca</i>	102. Sandwich Tern	<i>Sterna sandvicensis</i>
51. Whitebreasted Waterhen	<i>Amaurornis phoenicurus</i>	103. Noddy Tern	<i>Anous stolidus</i>
52. Oystercatcher	<i>Haematopus ostralegus</i>	104. Greyfronted Green Pigeon	<i>Treron pompadora</i>

Common Name	Species	Common Name	Species
105. Blue Rock Pigeon	<i>Columba livia</i>	147. Brahminy Myna	<i>Sturnus pogadarum</i>
106. Indian Ring Dove	<i>Streptopelia decaocto</i>	148. Rosy Pastor	<i>Sturnus roseus</i>
107. Indian Spotted Dove	<i>Streptopelia chinensis</i>	149. Common Myna	<i>Acridotheres tristis</i>
108. Roseringed Parakeet	<i>Psittacula krameri</i>	150. Indian Tree Pie	<i>Dendrocitta vagabunda</i>
109. Redwinged Crested Cuckoo	<i>Clamator coromandus</i>	151. House Crow	<i>Corvus splendens</i>
110. Pied Crested Cuckoo	<i>Clamator jacobinus</i>	152. Jungle Crow	<i>Corvus macrorhynchos</i>
111. Small Cuckoo	<i>Cuculus poliocephalus</i>	153. Common Wood Shrike	<i>Tephrodornis pondicerianus</i>
112. Common Hawk Cuckoo or Brain fever Bird	<i>Cuculus varius</i>	154. Blackheaded Cuckoo-Shrike	<i>Coraciua melanoptera</i>
113. Indian Plaintive Cuckoo	<i>Cacomantis passerinus</i>	155. Common Iora	<i>Aegithina tiphia</i>
114. Indian Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	156. Redvented Bulbul	<i>Pycnonotus cafer</i>
115. Indian Drongo Cuckoo	<i>Surniculus lugubris</i>	157. Whitebrowed Bulbul	<i>Pycnonotus luteolus</i>
116. Koel	<i>Eudynamys scolopacea</i>	158. Common Babbler	<i>Turdoides caudatus</i>
117. Small Greenbilled Malkoha	<i>Rhopodytes viridirostris</i>	159. Whiteheaded Babbler	<i>Turdoides affinis</i>
118. Crow-pheasant	<i>Centropus sineusis</i>	160. Brown Flycatcher	<i>Muscicapa latirostris</i>
119. Spotted Owlet	<i>Athene brama</i>	161. Brownbreasted Flycatcher	<i>Muscicapa muttui</i>
120. Short-eared Owl	<i>Asio flammeus</i>	162. Bluethroated Flycatcher	<i>Muscicapa rubeculoides</i>
121. Common Nightjar	<i>Caprimulgus asiaticus</i>	163. Paradise Flycatcher	<i>Terpsiphone paradisi</i>
122. Alpine Swift	<i>Apus melba</i>	164. Tailor Bird	<i>Orthotomus sutorius</i>
123. Palm Swift	<i>Cypsiurus parvus</i>	165. Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>
124. Lesser Pied Kingfisher	<i>Ceryle rudis</i>	166. Paddyfield Warbler	<i>Acrocephalus agricola</i>
125. Common Kingfisher	<i>Alcedo atthis</i>	167. Lesser Whitethroat	<i>Sylvia curruca</i>
126. Whitebreasted Kingfisher	<i>Halcyon suyrnensis</i>	168. Largebilled Leaf Warbler	<i>Phylloscopus magnirostris</i>
127. Blackcapped Kingfisher	<i>Halcyon pileata</i>	169. Dull Green Leaf Warbler	<i>Phylloscopus trochiloides</i>
128. Bluetailed Bee-eater	<i>Merops philippinus</i>	170. Blue Chat	<i>Erithacus brunneus</i>
129. Green Bee-eater	<i>Merops orientalis</i>	171. Magpie-Robin	<i>Copsychus saularis</i>
130. Indian Roller or Blue Jay	<i>Coracias benghalensis</i>	172. Indian Robin	<i>Saxicoloides fulicata</i>
131. Hoopoe	<i>Upupa epops</i>	173. Pied Ground Thrush	<i>Zoothera wardii</i>
132. Lesser Goldenbacked Woodpecker	<i>Dinopium benghalense</i>	174. Orangeheaded Ground Thrush	<i>Zoothera citrina</i>
133. Indian Pitta	<i>Pitta brachyura</i>	175. Richard's Pipit	<i>Anthus novaeseelandiae richardi</i>
134. Bush Lark	<i>Mirafra assamica</i>	176. Paddyfield Pipit	<i>Anthus novaeseelandiae rufulus</i>
135. Redwinged Bush Lark	<i>Mirafra erythroptera</i>	177. Forest Wagtail	<i>Motacilla indica</i>
136. Ashycrowned Finch-Lark	<i>Eremopterix grisea</i>	178. Yellow Wagtail	<i>Motacilla flava</i>
137. Eastern Skylark	<i>Alauda gulgula</i>	179. Grey Wagtail	<i>Motacilla cinerea</i>
138. Swallow	<i>Hirundo rustica</i>	180. Large Pied Wagtail	<i>Motacilla maderaspatensis</i>
139. Baybacked Shrike	<i>Lanius vittatus</i>	181. Tickell's Flowerpecker	<i>Dicaeum erythrorhynchos</i>
140. Brown Shrike	<i>Lanius cristatus</i>	182. Purplerumped Sunbird	<i>Nectarinia zeylonica</i>
141. Golden Oriole	<i>Oriolus oriolus</i>	183. Purple Sunbird	<i>Nectarinia asiatica</i>
142. Black Drongo	<i>Dicrurus adsimilis</i>	184. House Sparrow	<i>Passer domesticus</i>
143. Grey Drongo	<i>Dicrurus leucophaeus</i>	185. Yellowthroated Sparrow	<i>Petronia xanthocollis</i>
144. Ashy Swallow-Shrike	<i>Artamus fuscus</i>	186. Spotted Munia	<i>Lonchura punctulata</i>
145. Greyheaded Myna	<i>Sturnus malabaricus malabaricus</i>	187. Blackheaded Munia	<i>Lonchura malacca</i>
146. Whiteheaded Myna	<i>Sturnus malabaricus blythii</i>		